

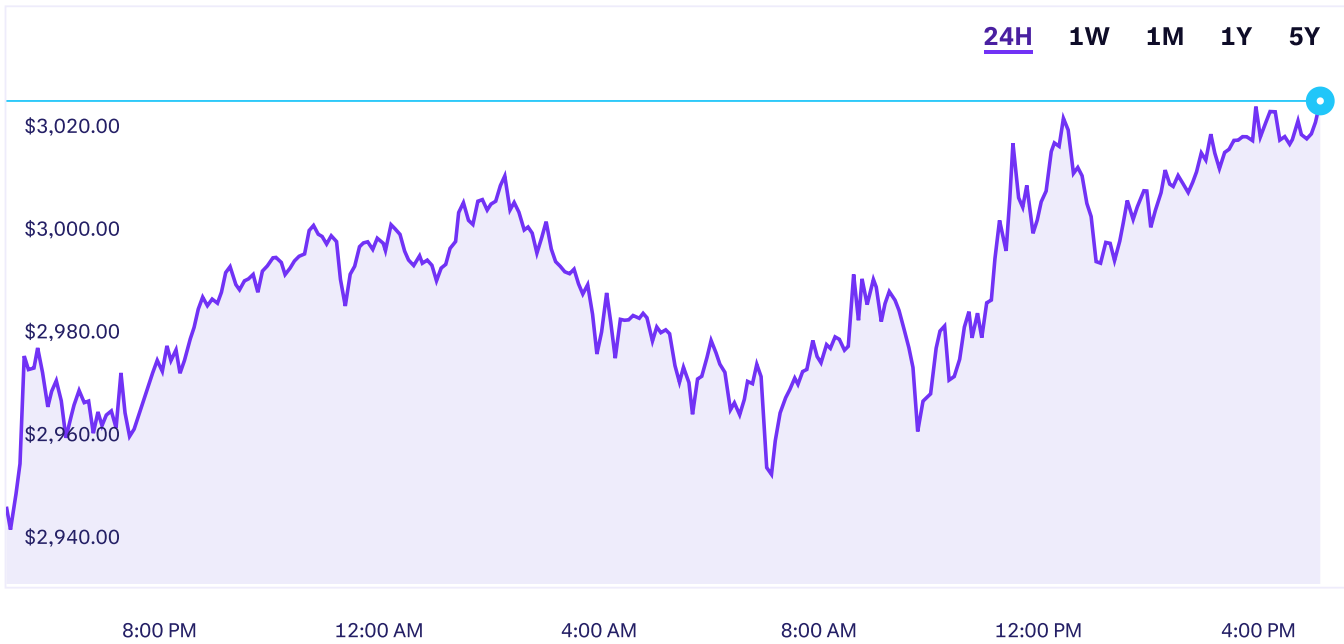
EXHIBIT CC

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Ethereum ETH

\$3,029.17 +2.78%

24H High 24H Low
\$3,026.21 \$2,942.79



Price Change (24h) \$81.92
Circulating Supply 120,109,672 ETH
Market Cap \$363,832,614,328

1

ETH

↔

3,029.17

USD

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\$10

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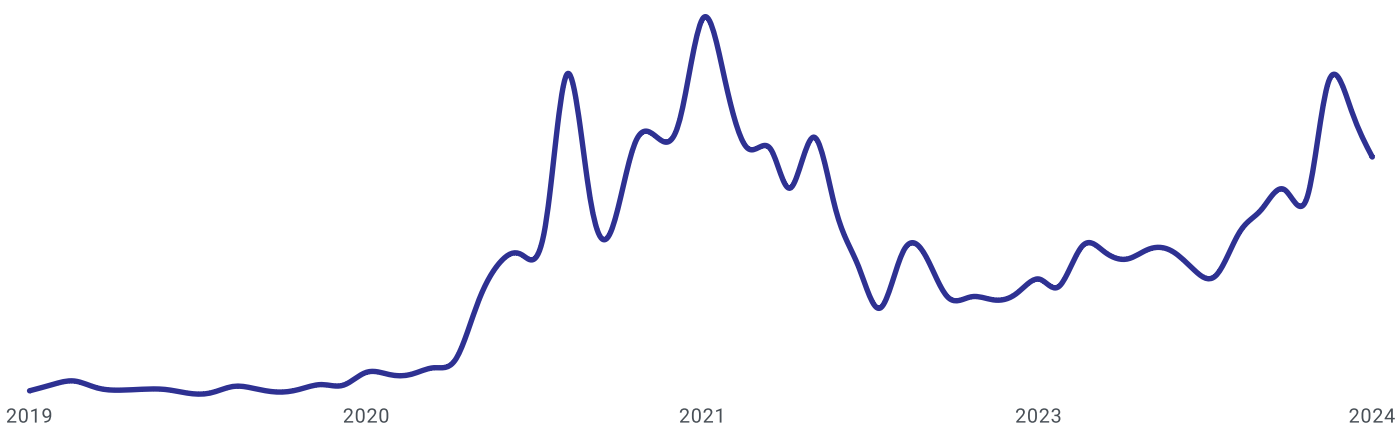
Asset ETH

Frequency month

Start year 2019

Total value
\$29,668.96
394.48% + 23,668.96

Total investment
\$ 6,000.00



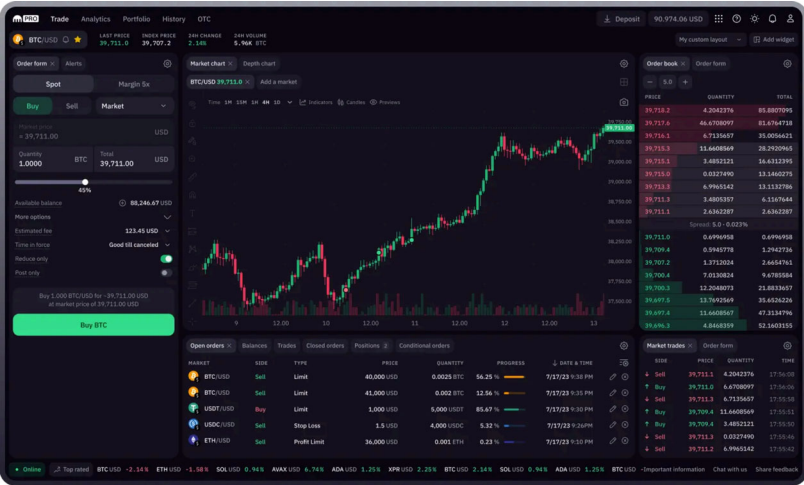
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Ethereum (ETH) Price History

Ethereum price moved **+2.78%** over the last 24 hours. The **ETH to USD** conversion rate is currently \$3,029.17 per ETH and the **circulating supply** of Ethereum is 120,109,672 ETH. Therefore, the current Ethereum **market cap** is \$363,832,614,328.

Over the last year, Ethereum price is **+63.78%**. The highest price of ETH in the last year was \$4,070.60 and the lowest price of ETH in the last year was \$1,536.81.

11,620 ETH was purchased today on Kraken worth \$35,199,573. Have you placed your ETH order yet? Kraken makes it easy to get started. Sign up today to buy and sell 247 cryptocurrencies. **[View all crypto prices.](#)**

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Ethereum staking

See if you can earn rewards on your Ethereum.

About Ethereum (ETH)

Ethereum is a global, open-source platform for decentralized applications. Ethereum is a marketplace of financial services, games and apps that is trustless, decentralized and secure. ETH is the cryptocurrency powering the Ethereum network. It's used to pay for transactions, as a store of value or peer-to-peer payment method, or as collateral to generate entirely different crypto tokens that run on Ethereum.

What is Ethereum (ETH)

Ethereum is a decentralized, open-source blockchain platform created in 2013. Unlike Bitcoin, which primarily facilitates digital payments, Ethereum allows developers to build their own decentralized applications (dApps).

People can use these applications for various purposes including financial applications, gaming, supply chain management, and more.

Underpinning these applications are smart contracts. These are self-executing programs with the terms of the agreement between the buyer and the seller being directly written into lines of code. Ethereum was the first project to introduce smart contract functionality to the industry.

Ethereum operates using its own native cryptocurrency called Ether (ETH), which is used to power smart contracts and transactions on the decentralized network. Ether is currently the world's second largest cryptocurrency by market capitalization (market cap).

Ether can be bought and sold on cryptocurrency exchanges and is used by many as a store of value, similar to Bitcoin.

Ethereum blockchain users must pay network fees, known as gas fees, to complete their actions and validate transactions. Ethereum denominates these fees in ETH.

Who created Ethereum?

Vitalik Buterin, a Russian-Canadian programmer created Ethereum. Buterin was just 19 years old when his favorite World of Warcraft character had its powers weakened - “nerfed” - by the game's developers and he understood the power of centralized intermediaries.

Buterin envisioned a decentralized digital network that would allow developers to build applications that could interact with digital currencies and crypto markets. Prior to creating Ethereum, Buterin co-founded Bitcoin Magazine — one of the earliest Bitcoin publications in the crypto space.

Buterin published the Ethereum white paper in 2014 and launched the project in 2015. He minted the Ethereum genesis block on July 30, 2015.

Buterin's vision for Ethereum quickly gained traction, and soon several other co-founders who shared his passion for blockchain technology joined the project. These co-founders included Gavin Wood, Joseph Lubin, Anthony Di Iorio, and Charles Hoskinson.

The members of the team founded the Ethereum Foundation shortly after. The Ethereum Foundation is a non-profit organization that aims to support the development and growth of the Ethereum platform and ecosystem. It provides funding, resources, and support for the development of the Ethereum blockchain, and oversees the development of the core Ethereum software.

Other Ethereum co-founders include Jeffrey Wilcke, Amir Chetrit, and Mihai Alisie.

To date, only Buterin remains with the project out of the eight original Ethereum co-founders.

How does Ethereum work?

Consensus mechanism

Ethereum, like many other crypto projects that emerged in the early 2010's, used the Proof-of-Work (PoW) consensus mechanism. First popularized by Bitcoin, PoW involves miners competing against one another using computing equipment to win the right to propose new blocks.

However, critics of PoW consensus argue that there are two limitations with this type of system. One is scalability and the other is energy efficiency.

In 2022, as part of a major technical overhaul, Ethereum's blockchain transitioned from a Proof-of-Work to a Proof-of-Stake (PoS) consensus mechanism. Known as The Merge, this upgrade sought to increase Ethereum's scalability and transaction throughput, while helping to dramatically lower fees and reduce its carbon footprint.

In a PoS system, validators that participate in verifying transactions must own and deposit a certain amount of cryptocurrency in a staking smart contract. The cryptocurrency they deposit or “stake” depends on the underlying blockchain they wish to support.

The blockchain protocol incentivizes validators to act in the best interest of the network, since they have a financial stake in storing valid information.

Staking on Ethereum

In Ethereum's PoS system, validators must hold a minimum of 32 ETH to participate in the network. These validators must commit their ETH as a stake, which they can lose if they act maliciously. The validators are then semi-randomly selected to create new blocks and validate transactions, and they earn rewards for doing so.

Ethereum staking rewards fluctuate depending on the number of active stakers at any given time. The greater the number of stakers, the lower the rewards, and vice versa.

For those who cannot afford to buy 32 ETH, liquid staking protocols exist that allow you to stake indirectly with much lower requirements, with two leading examples being Lido Finance and Rocket Pool.

Ethereum Virtual Machine (EVM)

Smart contracts are an integral part of the Ethereum blockchain. The Ethereum Virtual Machine (EVM) is responsible for executing these special types of contracts.

The EVM is a sandboxed environment, which means that the code executed on the EVM is separate from the rest of the network. This helps to ensure that the code executing on the EVM cannot interfere with other applications or the network itself. The EVM also makes sure that every node on the network executes the same code — guaranteeing that the network remains reliable and secure.

One of the key features of the EVM is its ability to handle complex computations. This capability makes it a powerful "Turing Complete" tool for developers creating any kind of dApp.

Tokenomics

Before The Merge, Ethereum was an inflationary currency, meaning the supply of ETH increased over time. Unlike Bitcoin, which has a max supply of 21 million units, there is no limit on how many ETH tokens can enter circulation.

The Ethereum team calculated Ether's inflation rate was around **4% per year**. However, following the London Hardfork in 2021 and the implementation of Ethereum Improvement Proposal (EIP) 1559, Ethereum developers added a deflationary mechanism.

Now, whenever an Ethereum user pays gas fees to complete an action, a part of that fee is permanently removed from circulation, or "burned." This feature helps reduce the issuance of Ether in circulation, and varies depending on network usage. The more active the Ethereum community is, the more fees they pay, which results in more ETH being burned.

Following The Merge phase of the Ethereum 2.0 network upgrade, Ethereum saw an **88.7% annual reduction** in the issuance of ETH. With that said, many do not yet consider ETH to be a deflationary asset.

Transactions

Ethereum transactions are digital messages sent between users on the Ethereum network. They contain information about the sender, recipient, amount, and gas price. Each transaction is verified and processed by a network of computers maintaining the network, referred to as nodes.

Nodes store transactions on the blockchain and these become irreversible once confirmed. Ethereum transaction fees, also known as gas fees, are the fees users must pay validators for processing their transactions on the Ethereum blockchain.

Gas

Gas is a unit of measurement for the computational resources that are required to execute a transaction or run a smart contract on the Ethereum network. Users pay gas in Ether. The amount of gas required for a transaction or smart contract depends on its complexity and the amount of computing resources required. The network itself sets the gas price, which can fluctuate based on demand and network congestion.

Storage

Like all other types of cryptocurrency, it's important to note how and where to safely store your Ether (ETH). Broadly speaking, there are two main types of crypto wallets for storing your digital assets: a hot wallet and a cold wallet.

Hot wallet

A hot wallet is a type of digital wallet that is connected to the internet. This feature makes it convenient for those who need quick access to their Ether but also makes it more vulnerable to hacking and theft. Hot wallets can take the form of a mobile app, a desktop app, or even an online service.

Cold wallet

A cold wallet, on the other hand, is a type of wallet that users rarely connect to the internet. This feature is seen to make cold wallets more secure than a hot wallet, but also less convenient to use. Cold wallets can take the form of a hardware wallet device or even a piece of paper with your private key written on it.

What is the difference between Ethereum and Bitcoin?

Ethereum expands on the blockchain technology pioneered by the Bitcoin network by introducing smart contracts. While Bitcoin remains a popular peer-to-peer digital cash system, Ethereum allows for the creation of unique tokens and advanced decentralized applications.

Ethereum's innovation has led to the formation of the decentralized finance (DeFi) and the non-fungible token (NFT) sectors. Developers have launched a wide range of DeFi platforms on top of the Ethereum blockchain that introduce new ways to trade. These include yield farming protocols like Curve and Aave and decentralized crypto exchanges such as Uniswap and Balancer.

NFTs, on the other hand, have revolutionized gaming, digital ownership, and collectibles. These unique cryptoassets now play a fundamental role in play-to-earn games and in developing the metaverse.

Want to learn more about the differences between Bitcoin and Ethereum? Check out Kraken's Learn Center article **Ethereum vs. Bitcoin**.

History of Ethereum

In 2013, Vitalik Buterin proposed the idea of Ethereum in a white paper.

In 2014, Buterin launched a crowdfunding campaign to raise funds for developing Ethereum. The campaign was a huge success, raising over \$18 million in just a few weeks. This funding allowed Buterin and his team to begin working on developing Ethereum.

In July 2015, the Ethereum network officially launched. The launch was not without its issues however, as a bug in the code led to the loss of over \$50 million worth of Ether. This event, known as the DAO hack, was a major setback for Ethereum which ultimately led to the creation of Ethereum Classic, a separate cryptocurrency that still exists today.

Despite this setback, Ethereum continued to grow in popularity and functionality. In 2016, the network underwent a major upgrade called Homestead, which improved its security and stability. In 2017, Ethereum experienced a massive surge in value, with the price of Ether reaching over \$1,000 at its peak during that time.

What impacts Ethereum price?

Supply and Demand

Like any other asset, the price of Ether is influenced by the principles of supply and demand, among other factors. If the demand for Ether exceeds the supply, the price will go up, and vice versa. The total supply of Ether is limited, and new Ether is created through a process called mining. The rate of Ether creation is predetermined, and it decreases over time, which means that the supply of Ether is gradually decreasing.

Adoption and use cases

The adoption and use cases of the Ethereum platform also influence the price of Ether. If more developers build decentralized applications on the Ethereum platform, there will be more demand for Ether to cover gas fees.

Similarly, if more businesses and individuals start using decentralized applications built on the Ethereum platform, the demand for Ether will increase.

Regulatory environment

The regulatory environment can also impact the price of Ether. If governments and regulatory bodies around the world crack down on different types of cryptocurrencies, it could lead to a reduction in demand. On the other hand, if governments and regulatory bodies start to embrace cryptocurrencies and blockchain technology, it could lead to increased adoption and demand for Ether.

Market sentiment

The price of Ether can also be influenced by market sentiment. If investors are optimistic about the prospects for Ethereum and other cryptocurrencies, it could lead to increased demand for Ether.

Conversely, if traders are pessimistic about the market's prospects, it could lead to decreased demand and a lower price.

Competition











Finally, competition can also impact the price of Ether. There are many other blockchain platforms that compete with Ethereum, such as **Cardano**, **Solana**, and **Polkadot**. If these platforms gain more adoption and use cases, they could reduce Ethereum's market share.

Show more











Trending Cryptocurrencies

Top cryptocurrencies with market data available on Kraken

Top 8 by market cap

 Bitcoin BTC	\$62,770.00 +2.01%	 XRP XRP	\$0.52 +0.09%
 Ethereum ETH	\$3,029.17 +2.78%	 Dogecoin DOGE	\$0.15 +4.81%
 Tether USDT	\$1.00 +0.05%	 Cardano ADA	\$0.46 +0.98%
 Solana SOL	\$150.52 +7.05%	 Shiba Inu SHIB	\$0.000023 +4.35%
 USDC USDC	\$1.00 +0.06%	 Avalanche AVAX	\$34.68 +2.79%

Biggest gains

 Akash Network AKT	\$5.23 +21.53%	 Render Token RNDR	\$10.92 +14.88%
 Energy Web Token EWT	\$3.60 +20.58%	 Augur v2 REPv2	\$1.37 +13.66%
 Livepeer LPT	\$16.44 +17.83%	 Serum SRM	\$0.048 +12.50%
 pSTAKE Finance PSTAKE	\$0.087 +15.80%	 Pepe PEPE	\$0.0000086 +11.76%
 iExec RLC RLC	\$3.32 +15.37%	 Moonriver MOVR	\$15.43 +11.26%

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What is Ethereum? (ETH)

Want to learn more about Ethereum? Read how Ethereum works and the unique features of the ETH cryptocurrency.

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What is The Ethereum Merge?

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